

# Looking Ahead to a Kentucky Water Resources Plan

Water Resources Board

October 31, 2016

Department for Environmental Protection  
Energy and Environment Cabinet



*To Protect and Enhance Kentucky's Environment*

**Kentucky**  
UNBRIDLED SPIRIT™



<https://www.kyfb.com/federation/water/resources/>



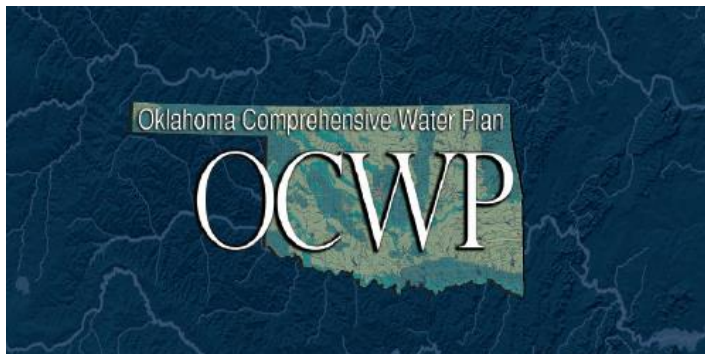
**“A GOAL WITHOUT A PLAN IS A WISH”**

*Anonymous Radio Personality*





*The AWP brings data, science, and public input together to define water demands, water supplies, issues and potential solutions to meet our future needs.*



States' plans are unique but share common features that are the foundation for water planning.



The Georgia Comprehensive State-wide Water Management Plan (State Water Plan) was adopted by the General Assembly in 2008. The State Water Plan provides for [Resource Assessments](#), [Forecasting](#), and [Regional Water Planning](#).



# CORE ELEMENTS OF A WATER PLAN PROCESS

**WATER AVAILABILITY**

Water Supply and Infrastructure

**DEMAND FORECASTING**

Water Quality

**GAP ANALYSIS**

Watershed Management

**TECHNICAL RESULTS AND FINDINGS**

Wastewater Infrastructure

**ISSUES AND POLICY RECOMMENDATIONS**

Drinking Water Action Plans  
AG Water Quality Plans  
Source Water Protection Plans  
Drought Response Plan

**PLAN IMPLEMENTATION**

**\*\*STAKEHOLDER-DRIVEN**

**\*\*REGIONAL PERSPECTIVES AND PRIORITIES**

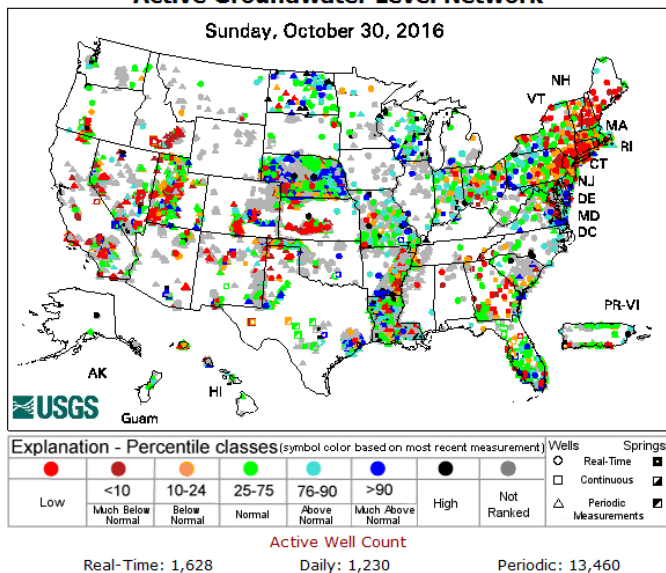
**\*\*INCREMENTAL DEVELOPMENT**



# TECHNICAL DATA AND STUDIES

## Active Groundwater Level Network

Sunday, October 30, 2016



## I. WATER AVAILABILITY

Regional Water Inventories

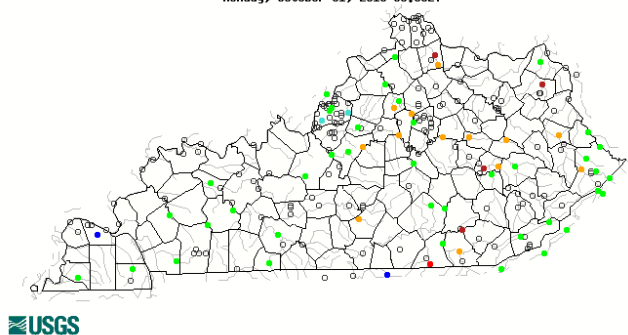
Annual and Seasonal "Surplus/Deficit"

- Existing withdrawal demand
- Instream Flow demands

## Map of real-time streamflow compared to historical streamflow for the day of the year (Kentucky)

Kentucky or Water-Resources Regions

Monday, October 31, 2016 08:30ET



# TECHNICAL DATA AND STUDIES



## II. DEMAND FORECASTING

Population-driven Demands

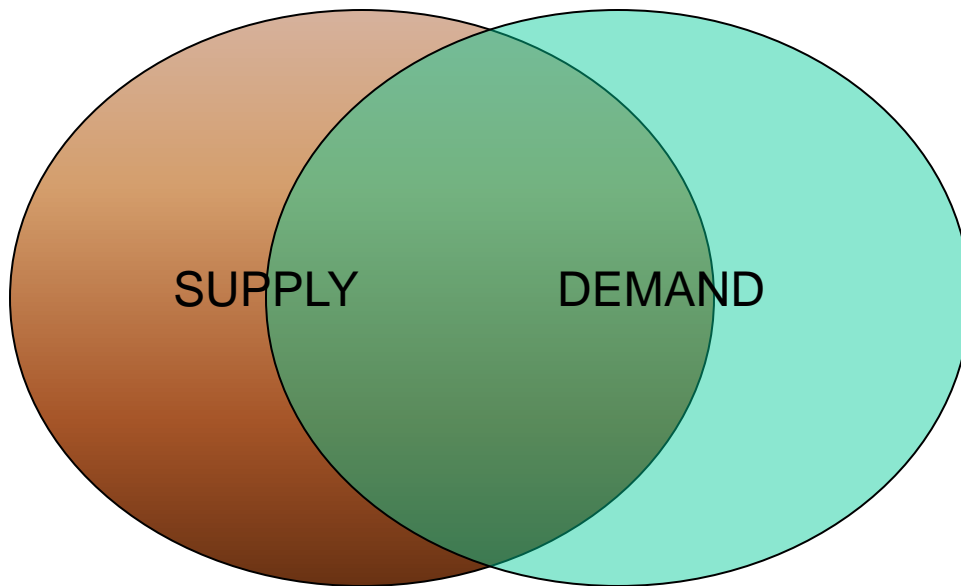
Agricultural Demands

Energy Sector Demands

Industrial Demands



# TECHNICAL DATA AND STUDIES



## GAP ANALYSIS

Where does available supply not meet current demand?

Where will available supply not meet future demand?

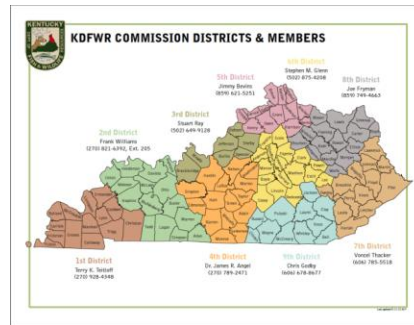
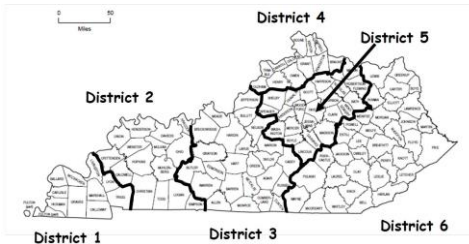
Why does the GAP exist?

What are potential solutions?

## “HOT SPOT” ANALYSIS

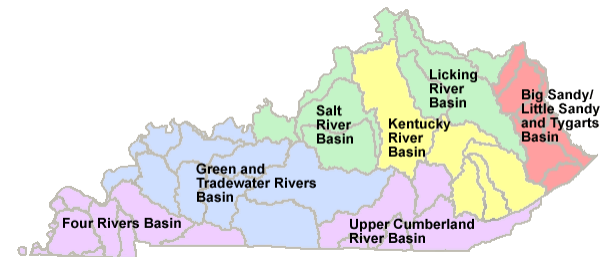
Which GAPS are most critical?

# PLAN DEVELOPMENT



## REGIONAL FOCUS

## STAKEHOLDER DRIVEN



What issues are seen as priorities at the local/regional level?

What needs to be in the plan?

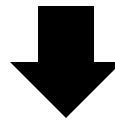
**\*\*Inform the development of a statewide water resources plan.**



# PLAN DEVELOPMENT AND IMPLEMENTATION

**TECHNICAL RESULTS  
AND FINDINGS**

**REGIONAL ISSUES AND  
PRIORITIES**



**STATEWIDE  
PRIORITIZATION OF  
ISSUES**

**POLICY/PROJECT  
RECOMMENDATIONS**

**PLAN DEVELOPMENT  
AND FEEDBACK**

**PLAN IMPLEMENTATION**

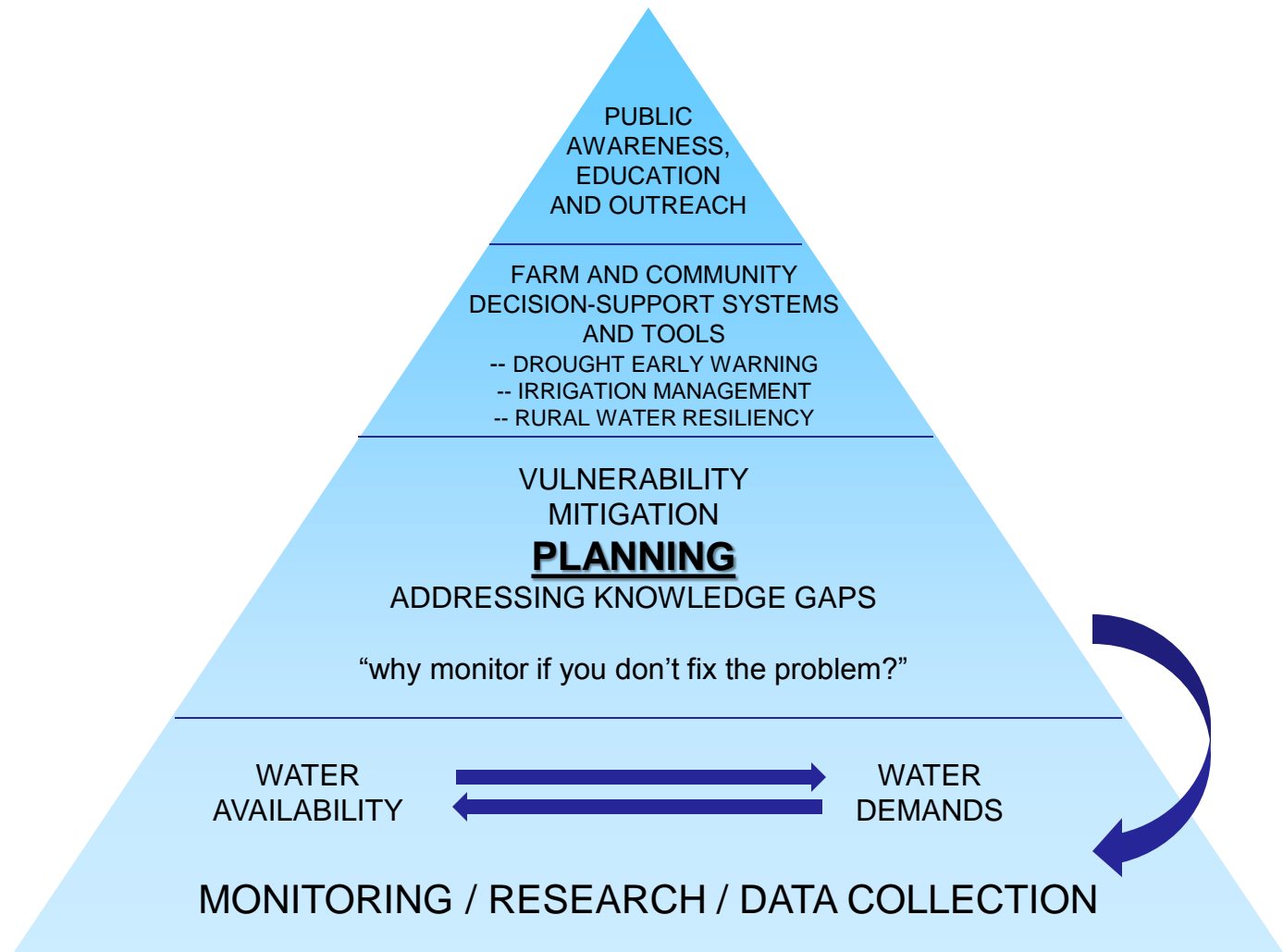
# PLAN DEVELOPMENT AND IMPLEMENTATION

**Appoint two working committees**

- **Technical Data Committee**
- **Plan Development Roadmap Committee**

# Water Resources Development

## What do we need to know?



## **Applicant: Kentucky Climate Center, WKU**

**WKU-1: The Kentucky Mesonet Station Acquisition and Installation**

**WKU-2: Kentucky Mesonet Soil Monitoring**

**WKU-3: Kentucky Mesonet Precipitation Monitoring**

**WKU-4: Summaries, Forecasts and Outlooks**



## **Applicant: US Geological Survey**

**USGS-1: Agricultural and Drought Data Management and Integration Application**

**USGS-2: Streamflow Gaging Stations in Critical Areas with Existing Data Gaps**

**USGS-3: Water Quality Monitoring Stations to Better Quantify Nutrient Loading**



## **Applicant: Kentucky Geological Survey**

**KGS-1: Kentucky Groundwater Observation Network**

**KGS-2: A Groundwater Withdrawal Assessment Tool for the Jackson Purchase Region**



**Applicant: Dr. Steve Higgins/University of Kentucky**

**UK-1: Stormwater Management, Water Harvesting and the LEAF Program**

